

A. Claims 1-9, 11, 12, 16-19, 21 and 22

Independent claim 1 sets forth a "multilayer coating system comprising at least one layer a) comprising a coating composition a) comprising at least one resin and an effective number of thiol groups, wherein layer a) was applied by rolling, spraying, brushing, flow coating, dipping or roller coating, and at least one layer b) comprising a coating composition b) comprising at least one resin and an effective number of thiol-reactive groups, wherein coating composition b) is a 2-component composition and comprises a component (i) which comprises thiol-reactive groups and a second component (ii) which comprises groups that are reactive with thiol-reactive groups; at least one layer a) and at least one layer b) having at least one common layer boundary." Claims 2-9, 11, 12, 16-19, 21 and 22 depend directly or indirectly from claim 1 and incorporate all of the limitations thereof.

1. §102

In order to anticipate a claim, the reference must disclose, in specific embodiments, all of the limitations of the claim. Delaney does not disclose, in specific embodiments, each and every limitation of independent claim 1, or its dependent claims 2-9, 11, 12, 16-19, 21 and 22. Thus, Delaney cannot anticipate claims 1-9, 11, 12, 16-19, 21 and 22.

Delaney describes a method that comprises electrophoretically applying a basecoat onto a substrate and then non-electrophoretically applying a topcoat. *See* Delaney, col. 1, lines 40-57. The Delaney basecoat contains a binder including an active hydrogen-containing material, which may have hydroxyl-functionality, amine-functionality, mercapto-functionality, or a mixture thereof. *See* Delaney, col. 2, lines 3-8. Based on these teachings, the Office Action takes the position that the Delaney basecoat corresponds to layer a) of claim 1.

Delaney does not teach that the basecoat comprises an effective number of thiol groups, as set forth in claim 1. Although Delaney generally teaches a basecoat containing a

binder comprising an active-hydrogen-containing material that may include mercapto (thiol) groups (*see* Delaney, col. 2, lines 3-8), Delaney does not provide an explicit disclosure of thiol-containing materials. *See generally* Delaney. None of the exemplary binder materials set forth in Delaney are thiol-containing materials. *See* Delaney, col. 2, lines 39-51. Because Delaney does not teach, in specific embodiments, any thiol-containing materials suitable for use in the electrophoretic application of the basecoat, Delaney does not disclose a "coating composition a) comprising at least one resin and an effective number of thiol groups," as set forth in claim 1. *See generally* Delaney.

Thus, Applicants respectfully submit that claim 1 and its dependent claims 2-9, 11, 12, 16-19, 21 and 22 are not anticipated by Delaney.

2. §103

As discussed above, Delaney does not specifically disclose, nor does it suggest, a "coating comprising at least one resin and an effective number of thiol groups." *See generally* Delaney. Delaney teaches that hydroxyl-functional and amine-functional resins are particularly suitable for use in its base coat providing suitable examples of such materials. *See* Delaney, col. 2, lines 39-51. However, Delaney does not provide a skilled person attempting to use or modify its methods and sufficient information to select suitable mercapto-functional materials, at least because no suitable thiol-containing materials are disclosed. *See generally* Delaney. Thus, Delaney does not teach or effectively suggest a coating composition including an effective number of thiol groups, as required by claim 1.

Also, Delaney relates to a method comprising applying a basecoat to a substrate by an electrophoretic method. *See* Delaney, col. 1, lines 45-46. Electrophoresis requires immersing an electrically conductive substrate into a bath containing an electrophoretically active coating composition, and depositing the coating by action of electric current. *See* Delaney, col. 4, lines 4-13. However, Delaney does not include any alternative methods for applying

its basecoat, and does not provide motivation to replace electrophoresis with an alternate application method, such as the methods set forth in claim 1 for applying layer a). *See generally* Delaney. Because substrates and coatings of the Delaney basecoat meet these requirements and because Delaney does not teach or suggest alternative basecoat application methods, a skilled person would not modify the Delaney basecoat application method to use alternative application methods.

In addition, the claimed methods for applying layer a) have distinct advantages that cannot be achieved by electrophoretic methods, like those of Delaney. Specifically, rolling, spraying, brushing, flow-coating, dipping and roller-coating methods may be used for refinishing automobiles and large transportation vehicles, such as trains, buses and airplanes. The Delaney electrophoresis method, which requires immersion of the substrate, can be used to coat automobile-body parts prior to assembly in factories. However, immersion in a coating bath is not feasible for repair of large transportation vehicles or automobiles. In contrast, the methods set forth in claim 1 can be used on large vehicles and for spot coatings, without the need to disassemble the vehicle. Thus, the Delaney electrophoretic method cannot provide the advantages of the application methods of claim 1.

For at least the above reasons, claim 1 and its dependent claims 2-9, 11, 12, 16-19, 21 and 22 would not have been rendered obvious by Delaney.

B. Claim 23

Independent claim 23 sets forth an "aqueous coating composition comprising a thiol-containing polyurethane and a polyacrylate dispersion."

1. §102

As discussed above with respect to claim 1, Delaney must disclose, in specific embodiments, all of the limitations of a claim to anticipate the claim. Delaney does not disclose, in specific embodiments, each and every limitation of claim 23, and thus cannot

anticipate claim 23. Delaney teaches binder materials including polyurethanes for its basecoat. *See* Delaney, col. 2, lines 8-10. However, polyurethanes do not necessarily include thiol groups, and Delaney does not teach, in specific embodiments, any thiol-containing polyurethane resins. *See generally* Delaney. Thus, Delaney does not teach an aqueous coating composition comprising a thiol-containing polyurethane, as required by claim 23.

In addition, Delaney does not teach inclusion of a polyacrylate dispersion in a coating composition including thiol-containing polyurethanes. Delaney teaches incorporating low molecular-weight active-hydrogen-containing materials, including acrylates, and additives into polyisocyanate resins to form its topcoat, but Delaney does not disclose topcoats comprising any polyurethane compounds. *See* Delaney, col. 3, lines 5-25. Thus, Delaney does not disclose an "aqueous coating composition comprising a thiol-containing polyurethane and a polyacrylate dispersion."

For at least the above reasons, Applicants respectfully submit that claim 23 is not anticipated by Delaney.

2. §103

As discussed above, Delaney does not specifically disclose, nor does it suggest, an aqueous coating composition that includes thiol-containing polyurethanes, as set forth in claim 23. *See generally* Delaney. Delaney teaches a preference for hydroxyl- and amine-functional resins by its disclosure of specific hydroxyl- and amine-functional materials. *See* Delaney, col. 2, lines 39-51. However, Delaney does not provide a skilled person attempting to use or modify its methods with sufficient information or motivation to select suitable mercapto-functional materials, at least because no suitable thiol-containing materials - and particularly no thiol-containing polyurethanes - are disclosed. *See generally* Delaney. Thus, Delaney does not teach or effectively suggest a coating composition including thiol-containing polyurethanes, as set forth in claim 23.

In addition, Delaney does not disclose or suggest incorporation of a polyacrylate dispersion in a coating composition including thiol-containing polyurethanes. As discussed above, Delaney teaches the addition of acrylic polymer as a sag-control agent to its solvent-borne high-solids topcoat composition but does not teach or suggest addition of acrylic polymer or any sag-control agent to its polyurethane-containing basecoat. *See* Delaney, col. 3, lines 45-62. A skilled person would not be motivated by Delaney to add a sag-control agent to the Delaney electrophoretically applied polyurethane-containing basecoat layer, which is not prone to sagging. Delaney does not teach or suggest polyurethanes as included in the non-electrophoretically applied topcoat, which can include acrylate sag-control agents. Thus, there is no motivation in Delaney to combine a sag-control agent, such as an acrylate, with a polyurethane-containing resin in a single layer. Thus, Delaney does not disclose or suggest an "aqueous coating composition comprising a thiol-containing polyurethane and a polyacrylate dispersion."

For at least the above reasons, claim 23 would not have been rendered obvious by Delaney.

C. Conclusion

For at least the reasons set forth above, Delaney neither anticipates nor renders obvious the subject matter of independent claim 1, of its dependent claims 2-9, 11, 12, 16-19, 21 and 22, or of independent claim 23. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-9 and 11-23 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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